



Docket No. MIT9126

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No. : 10/052,667 Confirmation No.: 5628  
Applicants: Jin Qiu et al.  
Filed: January 18, 2002  
TC/A.U.: 2835  
Examiner: A. Vortman  
Docket No.: MIT9126  
For: Bistable Actuation Techniques,  
Mechanisms, and Applications

COMMISSIONER FOR PATENTS  
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*[Signature]*  
December 17, 2004

**INFORMATION DISCLOSURE STATEMENT FILED PURSUANT  
TO THE DUTY OF DISCLOSURE UNDER 37 CFR §1.56, §1.97, AND §1.98**

Pursuant to the duty of disclosure under 37 CFR §1.56, §1.97, and §1.98, the Applicants  
request consideration of this Information Disclosure Statement.

Compliance with 37 CFR §1.97:

This Information Disclosure Statement is hereby filed under §1.97 (c) at a time prior to  
the mailing date of a final action or notice of allowance.

Please apply the fee of \$180.00 under 1.17(p) to Deposit Account 19-2553. If any other  
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12/23/2004 FMETEKI1 00000025 192553 10052667

02 FC:1806 180.00 DA

Information Cited:

The Applicants hereby make of record in the instant application the information listed on the attached Form PTO/SB/08A and PTO/SB/08B. The order of presentation of the references on the form is substantially chronological and should not be construed as an indication of the importance of the references. A copy of each of the listed items is enclosed.

Items A and B were cited in an International Search Report for counterpart PCT application PCT/US02/01662. A copy of the PCT International Search Report is included for reference.

The Applicants respectfully request that:

1. The Examiner consider completely the cited information in reaching a determination concerning the patentability of the pending claims;
2. The enclosed Forms PTO/SB/08A and PTO/SB/08B be signed by the Examiner and a signed copy returned to the undersigned Agent to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
3. The citations for the information listed on the enclosed Forms PTO/SB/08A and PTO/SB/08B be printed on any patent which issues from this application.

In submitting this Information Disclosure Statement, the Applicants make no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

In submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 CFR §1.56(b).

In submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicants, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

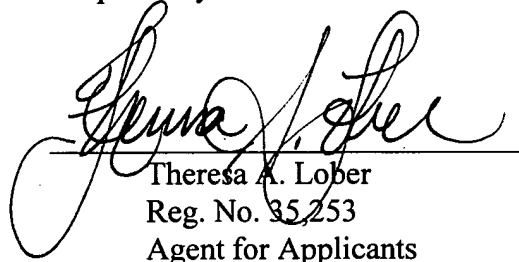
An early and favorable action is hereby requested.

Date:

December 17, 2004

T. A. Lober Patent Services  
45 Walden Street  
Concord, Massachusetts 01742  
Telephone: 978.369.2181  
Facsimile: 978.369.7101

Respectfully Submitted

  
Theresa A. Lober  
Reg. No. 35,253  
Agent for Applicants



Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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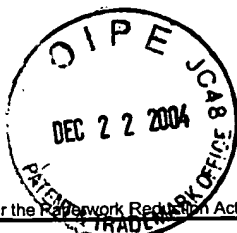
Application Number	10/052,667
Filing Date	January 18, 2002
First Named Inventor	Jin Qiu
Art Unit	2835
Examiner Name	A. Vortman
Attorney Docket Number	MIT9126

[illegible][illegible]

Date	
Considered	

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>			
		Application Number	10/052,667		
		Filing Date	January 18, 2002		
		First Named Inventor	Jin Qiu		
		Art Unit	2835		
		Examiner Name	A. Vortman		
Sheet	2	of	2	Attorney Docket Number	MIT9126

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	B	VANGBO, "An analytical analysis of a compressed bistable buckled beam," Sensors and Actuators A, Vol. 69, No. 3, pp. 212-216, Sept. 15, 1998.	
	C	QIU et al., "A Centrally-Clamped Parallel-Beam Bistable MEMS Mechanism," Proceedings: IEEE Workshop on Micro Electro Mechanical Systems, pp. 353-356, Interlakken, Switzerland, January 21-25, 2001.	
	D	BRENNER et al., "Optimum Design of a MEMS Relay Switch," Proceedings: Fifth International Conference on Modeling and Simulation of Microsystems (MSM2002), pp. 214-217, San Juan, PR, April 22-25, 2002.	
	E	QIU et al., "A High-Current Electrothermal Bistable MEMS Relay," Proceedings: IEEE Workshop on Micro Electro Mechanical Systems," pp. 64-67, Kyoto, Japan, January 19-23, 2003.	
	F	LI et al., "DRIE-Fabricated Curved-Electrode Zipping Actuators With Low Pull-in Voltage," Proceedings: Transducers '03, pp. 480-483, Boston, MA June 8-12, 2003.	
	G	BRENNER et al., "Optimal Design of a Bistable Switch," PNAS, Vol. 100, No. 17, pp. 9663-9667, August 19, 2003.	
	H	QIU et al., "A Curved-Beam Bistable Mechanism," Journal of Microelectromechanical Systems," Vol. 13, No. 2, pp. 137-146, April 2004.	
	I	BRENNER et al., "Optimum Design of an Electrostatic Zipper Actuator," Technical Proceedings of the 2004 NSTI Nanotechnology Conf. and Trade Show, Vol. 2, Chapter 7, pp. 371-374, 2004.	

Examiner Signature	Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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